

# American Fruit Grower

WESTERN EDITION

NOVEMBER • 1957



A 'Short Wave' to a  
Longer Life for Fruits

Pear Decline Still  
a Mystery

Fruit Areas of America—  
MICHIGAN

New Ideas in Apple Storages



Bob Holub, Firestone Store manager, delivers a "loaner" to Fred and John Ullmann.

## "WITH FIRESTONE FREE LOANERS WORK TIME IS NEVER LOST,"

**say Fred and John Ullmann, Johnstown, Colorado**

Firestone's *free loaner* service makes a big hit with Fred and John Ullmann, who rate high among Colorado's leading sugar beet growers. The instant tire trouble develops, a call to their Firestone dealer, Bob Holub of Longmont, Colorado, starts him on the way with Firestone *free loaners* to keep equipment rolling while other tires are being repaired or retreaded.

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keeps equipment on the job. It's that special kind of service that sold us on Firestones."

The Ullmann brothers, like the majority of farmers, have found that Firestone service and quality Firestone tires are their insurance against downtime due to tires.

See your Firestone Dealer or Store today. Turn downtime into work time with Firestone *free loaners*.

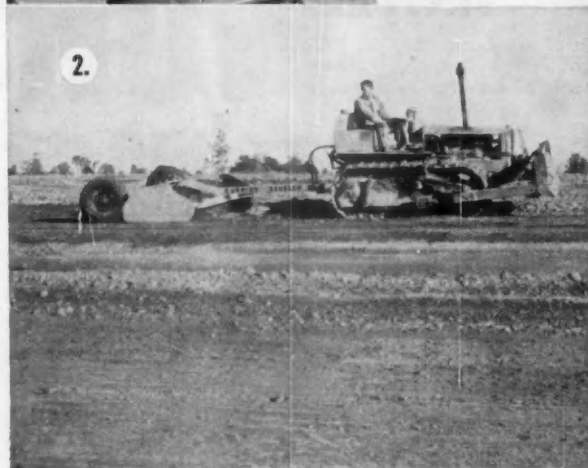
# Firestone

**BETTER RUBBER FROM START TO FINISH**

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# 3 ideas



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Before next spring, there are many jobs you can do to help your orchard bear better—and to make it easier for you to spray, cultivate, pick or irrigate—when you have a CAT\* Diesel Tractor! Here are a few ideas that can pay off for you. Look them over—think how you may be missing something with your present tractor.

(1) **Clear out dead, diseased or unpopular varieties**—get your orchard in top shape by clearing and replanting at exactly the right time, and exactly the way you want it done.

(2) **Develop new land, improve orchard for irrigation, drainage**—earthmoving may be the most important operation your orchard needs. You can control moisture run-off, eliminate standing water, establish an irrigation system, build ponds and roads, add new land to your orchard and improve established orchards.

(3) **Put your ground in good shape for spring**—many tillage operations such as subsoiling and cultivation can be performed late in the year—a simple task for a Cat

track-type Tractor and Tool Bar equipment. Light treading Cat track-type Tractors eliminate serious soil packing that stifles normal root growth.

Now, call your Caterpillar Dealer for a free power analysis of your orchard. He will gladly help you select the tractor you need.

**FREE BOOKLET**—"Tires or tracks..." explains the place for wheels and tracks in your orchard. Write for your free copy. Address: Dept. AMF117, Caterpillar Tractor Co., Peoria, Ill., U.S.A.

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NOVEMBER, 1957

3





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# American Fruit Grower

Cover photograph by Harry Vroman

**VOL. 77**

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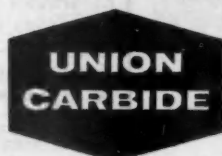
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Freight cars, loaded with farm products, pour into vast yards and are electronically weighed, routed, and assembled into new trains bound for markets all over the country.

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As a result, the railroads' earnings are reduced — and the nation loses some of the benefits of railroad progress. In your interest — in the interest of *every* American family — railroads should be given equal opportunity to earn an adequate return on their investment. *Isn't this common sense?*

## AMERICA MOVES AHEAD WITH THE RAILROADS

Association of American Railroads, Washington, D. C.



YOUR BASIC TRANSPORTATION

# LETTERS TO THE EDITOR

## **Bark Inversion**

Dear Editor:

A few years ago you had an article on dwarfing by bark inversion. In July, 1955, I performed this bark inversion on five apple trees, four Red Delicious and one Redgold. I did not take the entire tree but only one branch of the tree, usually 1 inch to 1½ inches in diameter. In the spring of 1956 all the branches on which I had performed the operation had blossoms and set fruit. Only one tree, the Redgold, had any blossoms on any other part of the tree and only a few at that.

None of the trees had ever borne before. Most of them only had a few apples on them but one had about a half bushel. The blossoms were two to three weeks later than trees that bloomed normally.

Rock Island, Ill.

Clarence Kappes

## **Liquid Lime Sulfur**

Dear Editor:

In one of your fall issues Walter W. Wightman, of Fennville, Mich., told us he had had fruit trees killed by using liquid lime sulfur solution on the trunks of young apple trees.

We spray our peach trees in late fall after most of the leaves have fallen using liquid lime sulfur at the ratio of 8 gallons. We have had 100% control of leaf curl by following this practice, both on young and old trees. We have noticed no damage from mice or rabbits on trees sprayed with the lime sulfur solution and no damage to the trees. We believe it is better to apply this spray when the temperature is at least 60° or above. However, we would not advise using lime sulfur at full strength on the trunks of any fruit trees, young or old.

We were sorry to hear of Mr. Wightman's loss. With all the hard work required to bring fruit trees into bearing, losing even one is discouraging.

Amelia, Ohio

B. E. Spurgeon  
Spurgeon Nursery

## **Old Varieties Orchard**

Dear Editor:

My Dad started a hobby collecting old apple varieties and raising them on Malling dwarfing stock IX, VII, and I at his home in Amherst, N. H. He now has 25 or 30 of the old varieties along with some of the commercial sorts. He has some of the dessert varieties such as Cox Orange, Ribston, Prairie Spy, Ruby, and Gilliflower.

Thought we might be able to swap some scions with other readers.

Madisonville, Ky. Henry T. Converse, Jr.

## **Reprint of Results on Fungicide Tests**

**"RESULTS** of 1956 Fungicide Tests," reprinted from a series of articles appearing in *Agricultural Chemicals*, may be purchased in bound and covered form for \$1.00 per copy. Send orders with remittance to Dr. A. B. Groves, Department of Plant Pathology, Virginia Agricultural Experiment Station, R. R. 3, Winchester, Va.

AMERICAN FRUIT GROWER

## CALENDAR OF COMING MEETINGS & EXHIBITS

Nov. 5-6—Minnesota Fruit Growers Association and Wisconsin State Horticultural Society (western section) joint meeting, Stoddard Hotel, LaCrosse, Wis.—J. D. Winter, Sec'y, 719 S.E. 5th St., Minneapolis, Minn.

Nov. 12-13—Wisconsin State Horticultural Society annual convention with fruit growers' program, Retlaw Hotel, Fond du Lac.—H. J. Rahmlow, Sec'y, U. of Wisconsin, Madison.

Nov. 14-15—Iowa Fruit Growers Association annual meeting, Memorial Union, Iowa State College, Ames.—R. Glenn Raines, Sec'y, Des Moines.

Nov. 14-15—Western Growers Association 32nd annual convention, Hotel del Coronado, Coronado, Calif. Headquarters: 606 So. Hill St., Los Angeles 14, Calif.

Nov. 15-16—Midwestern nut conference, Hickman, Ky. Hosts: Kentucky State Horticultural Society and State Extension Service.—W. W. Magill, Sec'y, Lexington.

Nov. 20-21—Ohio Pesticide Institute annual winter meeting, Neil House, Columbus.—J. D. Wilson, Sec'y, Wooster.

Nov. 25-26—Illinois State Horticultural Society and Illinois Fruit Council annual meeting, Abraham Lincoln Hotel, Springfield. Fruit queen contest Nov. 25—Harold J. Hartley, Sec'y, Carbondale.

Dec. 2-3—Peninsula Horticultural Society, Salisbury, Md. (Fruit Day, Dec. 3)—Robert F. Stevens, Sec'y, Newark, Del.

Dec. 2-4—New Jersey State Horticultural Society annual meeting, Claridge Hotel, Atlantic City.—Ernest G. Christ, Sec'y, New Brunswick.

Dec. 2-4—Fruit School, Ohio Agricultural Experiment Station, Wooster.—C. W. Ellenwood, Sec'y, Ohio State Horticultural Society, Wooster.

Dec. 2-4—Washington State Horticultural Association 53rd annual meeting, Wenatchee.—John C. Snyder, Sec'y, Pullman.

Dec. 3-4—Oklahoma Pecan Growers Association annual meeting and show, Muskogee.—E. L. Whitehead, Sec'y, Stillwater.

Dec. 3-5—Michigan State Horticultural Society annual meeting, Civic Auditorium, Grand Rapids.—A. E. Mitchell, Asst. Sec'y, East Lansing.

Dec. 4-5—Connecticut Pomological Society annual meeting, Bond Hotel, Hartford.—Sherman P. Hollister, Sec'y, Storrs.

Dec. 4-5—Kansas State Horticultural Society annual meeting, Manhattan.—W. G. Amstein, Sec'y, Manhattan.

Dec. 5—Annual Irrigation Exposition, Eastern New Mexico Fairgrounds, Roswell. Al W. Woodburn, Chaves County Extension Agent, Roswell.

Dec. 5-6—Oregon State Horticultural Society annual meeting, Oregon State College, Corvallis.—C. O. Rawlings, Sec'y, Corvallis.

Dec. 6-7—Utah State Horticultural Society annual meeting, Hotel Utah, Salt Lake City.—Anson B. Call, Sec'y, Logan.

Dec. 9-10—Idaho State Horticultural Society 63rd annual meeting, Hotel Boise, Boise.—Anton S. Horn, Sec'y, U. of Idaho, Boise.

Dec. 9-12—Vegetable Growers Association of America 49th annual convention, Jung Hotel, New Orleans, La.—Joseph S. Shelly, Sec'y, 525 Mills Bldg., Washington 6, D.C.

Jan. 6-9, 1958—American Pomological Society annual meeting in joint session with Massachusetts Fruit Growers Association, Bancroft Hotel, Worcester, Mass.—George M. Kessler, Sec'y, APS, East Lansing, Mich. A. P. French, Sec'y, MFGA, Amherst, Mass.

Jan. 7-9—Maryland State Horticultural Society 60th annual convention, Hotel Alexander, Hagerstown.—A. F. Vierheller, Sec'y, College Park.

Jan. 9-10—Tennessee State Horticultural Society 52nd annual meeting, Patten Hotel, Chattanooga.—A. N. Pratt, Sec'y, Nashville.

Jan. 10—Kentucky Horticultural Society meeting, Paducah.—W. W. Magill, Sec'y, Lexington.

Jan. 13-15—Virginia State Horticultural Society annual meeting, Hotel Roanoke, Roanoke.—John F. Watson, Sec'y, P. O. Box 718, Staunton.

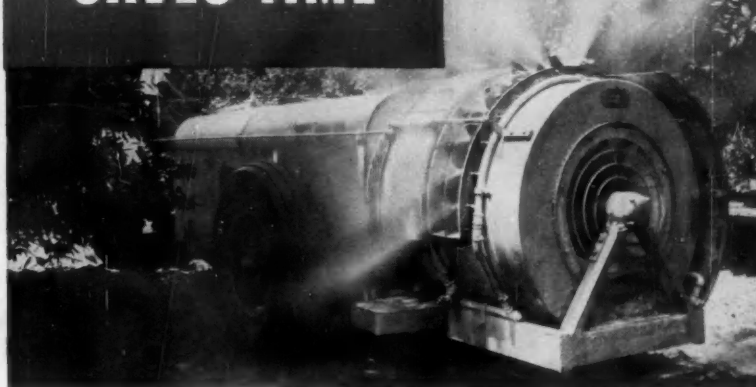
Jan. 21-23—Indiana Horticultural Society annual winter meeting, Severin Hotel, Indianapolis, Ind.—George A. Adrian, Sec'y, R.R. 4, Box 54-M, Indianapolis.

Jan. 21-24—New York State Horticultural Society, in conjunction with New York State Vegetable Growers Association and Empire State Potato Club, War Memorial, Rochester.—D. M. Dalrymple, Sec'y, Lockport.

Jan. 29-31—New York State Horticultural Society eastern meeting and show, Armory, Kingston.—D. M. Dalrymple, Sec'y, Lockport.

NOVEMBER, 1957

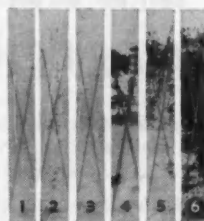
## MYERS Bigger Spray Tank SAVES TIME



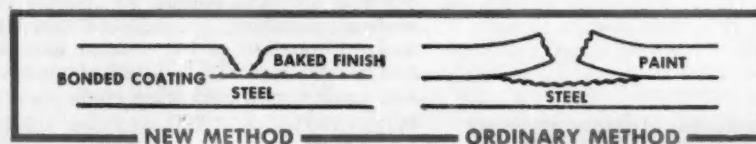
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**American  
Fruit Grower**

• Fruit for Health •



Checking the shelf life of fruit in the retail store. Irradiation may some day prevent fruit breakdown.

# A 'Short Wave' to a LONGER LIFE FOR FRUITS

**Fascinating experiments show that irradiation may  
some day prove to be a boon to the fruit industry**

By **BRUCE H. MORGAN** and **MORRIS SIMON**

*Quartermaster Food & Container Institute  
for the Armed Forces*

**I**RRADIATION by atomic energy offers much promise as a means of extending the useful life of fruits. Because of the great progress which has been made in this field in the last five years, it is not unreasonable to expect radiation treatments to become a commercial reality in the future.

There are two major types of radiation which are applicable to food preservation. These are high-energy electron particles known as cathode rays, and electromagnetic waves, which may be either gamma or x-rays.

Gamma and x-rays have similar physical characteristics, differing primarily in their origin. X-rays are produced by man-made machines, while gamma rays are emitted by atomic nuclear material during radioactive decay. The great penetrating power of gamma rays and the continuous disintegration of radioactive isotopes compel the use of suitable shielding and protective measures to assure the safety of the personnel operating in the vicinity.

High-energy electrons, or cathode rays, are obtained from electron-

accelerating machines. An advantage of this type of radiation is the ability to turn the equipment on or off at will. For small objects, flat containers, and surface or near-surface penetration, electron radiation offers much promise, while for deep penetration the use of gamma rays may be necessary.

For purposes of convenience radiation as a process for preservation of fruits may be divided into four categories, each denoting a different dose range.

1) Sterilization—To destroy all forms of typical food spoilage organisms a dose of about 3 million rep (measurement of radiation absorbed by a material) is necessary. This treatment should be combined with a very mild heat treatment, such as blanching, which inactivates the naturally-contained enzymes that are another major cause of food spoilage.

2) Pasteurization—A dose of 50,000 to 500,000 rep will destroy almost all nonsporulating bacteria, fungi, and molds. With protection against airborne recontamination and proper storage conditions, pasteuriza-

tion could extend by severalfold the normal shelf life of fruits.

3) Parasite and insect control—Doses in the range of 5000 to 100,000 rep could give possible control of parasites attacking fruit after harvest, allowing shipment of fruit out of embargo areas.

4) Physiological modifications—This use of radiation promotes or retards certain physiological changes in plant products.

Along with the killing effects of radiation, some changes are induced in the fruit that limit the number of commodities suitable for treatment. Such changes include softening, decreased color due to pigment destruction, and a decrease of characteristic flavor. A survey of published reports of many laboratories\* brings to light the following preliminary results:

**Apples**—Jonathan apples were gamma-irradiated in the range of 100,000 to 200,000 rep. After 10 days of storage at 70° to 75° F., the irradiated apples remained sound, whereas unirradiated apples from the same lot had completely spoiled.

**Cherries**—Pasteurization doses have been effective in noticeably lengthening storage life.

**Citrus**—Grapefruit has withstood  
(Continued on page 19)

# THE FRUIT AREAS OF AMERICA

# MICHIGAN

By H. B. TUKEY  
Michigan State University

THE motto of Michigan characterizes the state—*Si quaeris peninsulam amoenam circumspecte*, which is translated, "If you seek a beautiful peninsula, look about you."

Virtually surrounded by water, it has access to four of the five Great Lakes, has the longest shore line of any state, and the Sault Ste. Marie Canal handles more traffic than any canal in the world. Besides this, Michigan is dotted with hundreds of lakes and ponds.

The Wolverine State is approximately 400 miles long and 310 miles wide, with a total land area of 57,000 square miles. In topography it is a relatively flat, somewhat rolling plain, only 573 feet above sea level in the southeast and reaching maximum altitudes of 2023 feet in the Porcupine Mountains of the Upper Peninsula. The soil is mostly sandy and clay loam and at one time supported great softwood forests and the greatest hardwood forests ever seen on the North American continent.

Approximately half of the area of the state is in farms—18,392,227 acres—and approximately half of this farmland is tillable. Cash receipts to farmers in 1954 were \$659 million, of which \$264 million came from farm crops. Fruit crops contributed \$54.5 million to this total.

The great diversity of agricultural products grown in the state is shown by the fact that Michigan ranks in the first ten in 39 important crops. In terms of fruit, it is first in the production of sour cherries, blueberries, and black raspberries; second in plums; third in strawberries and peaches; fourth in apples, pears, and sweet cherries; and fifth in grapes.

Total fruit production is in the neighborhood of 365,000 tons. This fruit is grown on 1.5% of the total farm acreage of the state, or 3% of the tillable farm acres. Most of the fruit acreage is on third-class land.

Some idea of the relative value of fruit crops in Michigan may be gathered from the 1954 dollar values: apples, \$12,712,000; sour

This is the thirteenth in a series of articles on important fruit areas of America. Previous "fruit tours" have taken us to New Jersey; East of the Cascades in Washington; California's Central Valley; the Ozark region of Missouri; Arkansas, and Oklahoma; New England; the Lower Rio Grande Valley of Texas; British Columbia's Okanagan Valley; Western New York; Georgia; Appalachia; Idaho, and South Carolina.

cherries, \$10,420,000; strawberries, \$5,416,000; peaches, \$4,820,000; grapes, \$4,635,000; blueberries, \$3,000,000; sweet cherries, \$2,271,000; pears, \$1,602,000; and plums, \$600,000.

From the beginning, history favored fruit growing in Michigan. Many of the state's early settlers possessed orchard background. They came from Appalachia, New York, and other fruit areas of the East.

They swept across the southern



Gerber Products Co., Fremont, Mich., uses about 20,000 tons of Michigan-grown apples, plums, peaches, and pears in normal processing year. These fruits go into nine different baby food varieties, both strained and junior.



Disc harrow does excellent job of cultivation, cleaning weeds from rows on this blueberry farm.

part of the state from 1830 to 1850, bringing fruit trees and fruit ideas with them. By successive jumps they moved up the shores of Lake Michigan—to South Haven, Grand Haven, Manistee, Frankfort, Traverse City, and Charlevoix. The growth of the fruit industry was early and rapid, and in 1870 the Michigan State Horticultural Society was established.

Original fruit plantings were spotted in virtually every section of the

state. But the winters of 1855-56, 1864, 1865, and 1866 showed the benefits of Lake Michigan and the belt 15 to 35 miles wide and 270 miles northward from the Indiana border to Little Traverse Bay. By 1900 orchards had mostly left the plains and moved to higher land.

It is hard to realize that in 1898 Michigan boasted 12½ million peach trees. But the severe winter of 1898-99 and the freak storm of October 10, 1906, cut the number back to





about 2 million, which is approximately the present number.

There are five major fruit areas in Michigan today: 1) Southwestern, 2) Centralwestern, 3) Oceana-Mason, 4) Northwestern, and 5) Southeastern. Perhaps some parts of the Upper Peninsula should be considered a sixth area. In some of the concentrated areas of fruit production 50 to 90% of the available cropland is in fruit.

The southwestern area is the major area of fruit production. It is characterized by berries, soft fruits, pome fruits, and great diversification. The west central area recognizes blueberries, peaches, and apples. The Oceana-Mason region consists of apples, peaches, cherries, and some strawberries, with the peach reaching its northern limit. In the northwestern area the sour cherry predominates. In the southeastern area apples and peaches predominate—affected very much by local markets.

Since World War I, the processing of fruits has moved steadily ahead in Michigan. Today approxi-

Special facilities for water hauling enabled Cherry Growers, Inc., Traverse City, Mich., to handle 7,000,000 pounds of fruit in 1955.



mately 12 to 16% of peach production is processed, 39% of strawberries, 50% of blueberries, and 92% of sour cherries. In fact, it is the processing industry which has brought sour cherry production from virtually nothing in 1900 to over 3,659,000 trees today.

In terms of variety, Jonathan and McIntosh are the leading apple varieties, followed by Northern

Spy and Delicious. Elberta, Halehaven, and the newer "Haven series" of peaches rank in that order. Bartlett and Kieffer are the principal pear varieties. Montmorency represents the sour cherry. Schmidt, Windsor, and Napoleon dominate sweet cherry plantings. Italian Prune and Stanley are the leading plum varieties. Premier and Robinson are the principal strawberries.

Supplemental irrigation is standard for strawberries and is increasing for other fruits. Mechanization



Bulk boxes are used for handling apples.

has reached a high stage of performance, including spray equipment, orchard management equipment, power pruning, fork lifts, pallet handling, transportation of cherries in tank trucks, hydrocooling, and cold storage. Co-operative packing and selling organizations are more numerous and more highly developed than in any state east of the Rocky Mountains. THE END.



- Washington Apple Promotion Fund Increased to 5 Cents a Box
- New Fruit Association Formed in the Northeast

#### Heads Apple Commission

WASHINGTON—Robert W. Johnston, assistant manager of Washington State Apple Commission, has been promoted to secretary-manager. He has been on the commission staff since 1945.

Johnston succeeds Harold Copple, Wenatchee, who has served as commission manager for the past 10 years. Copple has joined Lloyd Sterling at the head of the newly-founded marketing department of Northwest Wholesale, Inc., of Wenatchee, the group which recently merged with Nuchief and Skookum fruit organizations of that area.



Johnston



Copple

Under Johnston, the commission will work with a half million dollars to advertise and promote the state apple crop this season.

The record consumer advertising budget was approved by the 11 elected apple commissioners last month. The group unanimously decided on a 1 cent per box increase in the apple advertising assessment imposed on all fresh shipments of Washington apples, or an increase from 4 to 5 cents.

Proposal for the increase was approved by the growers by a two-vote margin, 1000 to 998.

#### Warning to Crop Dusters

CALIFORNIA—Santa Cruz Agricultural Commissioner Matt Mello issued a temporary ban against further use of Phosdrin after eight people in his area suffered chemical poisoning in the course of a week. The chemical is used in strawberry insect control. Fourteen others who had used Phosdrin were reported hospitalized in Santa Clara County. All victims had applied the chemical by hand-dusting.

Since Phosdrin, according to Dr. Taine Bell, Santa Cruz County health officer, is absorbed more rapidly through the skin than previous types of similar chemicals, safer application methods must be found.

#### Five Ton Berry Growers

OREGON—R. H. and R. J. Cobine, strawberry-growing partners near Independence, topped the list of Polk County's entrants this year in the Oregon-Washington Five Ton Club. Their yield: 6.05 tons average on 4½ acres of the Northwest variety, grown on bottom land of the Chehalis River. Berries were in the second year of production.

Top club members tell a similar story on how to do it. They advise doing the right job at the right time and state that

soil management is more important than kind of soil available. "Most growers cultivate too deeply, particularly in spring," they say.—Harold and Lillie Larsen.

#### New Northeast Association

NEW YORK—The newly-formed Northeastern Fruit Association was set to launch operations on October 1. James Huston is executive secretary, with headquarters at Milton, N. Y. Other officers are: Gerow Schoonmaker, Walkill, president; Jerome Hurd, Clintondale, vice-president; C. H. Gowdy, Hudson, secretary-treasurer. Directors are: F. Palmer Hart, Red Hook; Herman Michaelson, Albany; Ben Moss, New York; Jack Hepworth, Milton; Weston M. Rider, Germantown, Pa.; and Clinton Carrough, Allendale, N.J. The officers are also directors.

Purpose of the organization is to assist members in promoting demand and sales of fruit and fruit products; to furnish them with marketing and price information; to guide them in distribution of their fruit; to provide a medium through which members can exchange information on crop condition, sales, and markets; and to co-operate with similar associations in promoting welfare of the northeastern fruit industry.

#### Irrigation to the Rescue

NEW JERSEY—The summer of 1957 was the driest one in the over 100 years during which records have been kept. More irrigation was used in apple and peach orchards than ever before, and results were extremely good. Some apple varieties attained good size without irrigation. These include McIntosh, R. I. Greening, Golden Delicious, and Cortland. Delicious, Stayman, and Rome are predominantly smaller sized. Fruit finish is good.—E. G. Christ, Sec'y, New Brunswick.

#### Cherry Group Appoints Manager

MICHIGAN—Great Lakes Cherry Growers Marketing Association appointed John Handy, Sodus, Mich., acting manager at its recent board meeting in Grand Rapids. Handy, who has been president of the board, will serve in this capacity until a full-time manager is employed.

The board also laid threefold plans for the coming season. These include: Working with the recent membership and increasing it; hiring a full-time manager; and obtaining processor acceptance and co-operation.

A problem facing the red cherry industry is the difficulty of obtaining an accurate crop estimate before harvest. During the past season in Michigan, growers estimated, in June, that they would harvest 122 million pounds; the Crop Reporting Service estimated 137 million pounds for processing; and the Michigan crop finally totaled 173 million pounds.—George McManus, Jr., Dist. Marketing Agent, Traverse City.

The dates December 3-5, 1957, have been set for the annual Michigan State Horticultural Society meeting to be held in the Civic Auditorium, Grand Rapids.

All fruit growers are invited to attend. The program will include such topics as airplane dusting, experiences with controlled atmosphere storages, new pesticide chemicals for 1958, and packaging and marketing practices to sell Michigan fruit.

As in 1956, the display area in the Civic Auditorium will be completely occupied with 80 commercial exhibits of production equipment, nursery stock, agricultural chemicals, packing house and packaging equipment, and a special display of the new apple varieties of the East and the new red sports from the West Coast. The exhibit hall itself is worth the full day of any fruit grower. —A. E. Mitchell, Asst. Sec'y, East Lansing.

Commercial APPLE production estimate, October 1, 1957, according to USDA: 113,372,000 bushels —2% above September 1 estimate. Last year's crop: 100,623,000 bushels.

#### Elberta Still Leads

GEORGIA—A survey made in May, 1957, by the departments of agricultural economics and the Crop Reporting Service indicates that Georgia now has 4,314,000 peach trees in commercial orchards (orchards over 10 acres). Elberta is still the leading variety, but there is an indication that Coronet and Keystone may displace Elberta in the south Georgia peach section. Dixired has been heavily planted in the middle Georgia peach section.

Several thousand trees were killed this past year by the misuse of fumigant type peach tree borer control materials. Direct application of emulsions to the trunks of trees caused the death of these trees. Some bacterial canker is also showing up in middle Georgia orchards.—E. F. Savage, Experiment.



PECAN HARVESTER

Have you ever picked up pecans until your back ached? If you have, you will welcome the simple, inexpensive pecan harvester developed by John L. Sanders, Route 2, Sanford, N.C. Mr. Sanders offers a long-handled harvester for adults and a short-handled model for younger folks. The cup holds about a pint of nuts.—Melvin H. Kolbe, Raleigh.

AMERICAN FRUIT GROWER



# State REPORTS

## WESTERN EDITION

**Western meeting programs crammed with important topics, outstanding speakers**

**Oregon forms berry bargaining agency**

### QUALITY IMPROVEMENT TO HIGHLIGHT WASHINGTON MEETING

By JOHN C. SNYDER, Pullman President and Secretary

THE 53rd annual meeting of Washington State Horticultural Association is scheduled for December 2-4 at Wenatchee. The tentative program featuring top flight speakers on topics of top interest to growers is as follows:

#### Quality Improvement

Quality improvement is to be one of the leading topics. Speakers representing growers, warehouse managers, scientists, packagers, and marketers will participate in a panel on this subject. **Reuben G. Benz**, noted authority on many problems of interest to horticulturists nationally, will moderate the panel. Mr. Benz in opening the panel will discuss "Our Changing Markets." As a marketer, Mr. Benz is most able to handle this assignment. Fruit growers everywhere know of his energetic and untiring efforts in numerous national programs to improve the apple industry nationally. His recent efforts in emphasizing the nutrition and health value of apples are an example. He is most able to show how the various segments of the apple industry relate to each other.

**Robert McDougall**, an apple grower from Wenatchee, will discuss quality improvement from the grower's standpoint.

**Paul Davies**, manager, Brewster Co-operative Growers, knows what it takes to put apples through the warehouse without injuring them. The fact that Mr. Davies is a grower as well as a warehouse manager, makes him doubly able to represent warehouse managers on this panel.

Bruising is one of the important factors that attracts the attention of the housewife when she buys apples. **Dr. Harold Schomer**, USDA horticulturist, Wenatchee, will show scientifically where and how bruising occurs and suggest ways to avoid it.

During recent years the trend has been toward the use of more cartons in packaging apples. **Herb Frank**, Yakima Fruit and Cold Storage, who had had considerable experience with wooden boxes and cartons, is in an excellent position to discuss this subject. In his discussion he will show how the package influences the quality of the apples which the housewife buys.

A speaker to represent the chainstores is being selected. He will point out just what the chainstores want in apples.

#### A 'Secret Weapon'

**J. Roger Deas**, American Can Company, New York, is scheduled to discuss "America's Secret Weapon." As public relations man for American Can Company, Mr. Deas is in an excellent position to discuss major factors which fruit growers close to the industry may not consider important. He no doubt will suggest ways in which the horticultural team of the nation can be made to work more smoothly and effectively. This talk alone will be worth the trip to Wenatchee.

The determined efforts of the horticultural industry of the state of Washington to market only high quality products are being helped by a similar determination on the part of the Washington State Department of Agriculture. **Joseph D. Dwyer**, director, Washington State Department of Agriculture, will discuss "Our Role in Maintaining High Quality."

**Dr. L. P. Batjer**, USDA horticulturist, Wenatchee, and noted authority on chemical thinning, along with several growers, is to present this subject.

#### The Eastern Picture

Northwestern fruit growers want to know what their eastern neighbors are doing. To get a first-hand story of what is going on in the East, they are looking to Sam R. Levering, a fruit grower of Ararat, Va. Mr. Levering spent several years in Washington as fruit credit specialist of the Farm Credit Administration and is a life member of Washington State Horticultural Association. At one time he was extension horticulturist in New England.

**Fred Burrows**, executive vice-president, International Apple Association, Inc., will talk mainly about joint promotion of apples on a national basis, with special emphasis on health and nutrition.

**Cecil C. Clark**, Wapato fruit grower, is going to discuss the Washington Canning Pear Bargaining Association and the Washington Peach Bargaining Association. He will explain operations of the past season and speak of future plans.

#### Marketing Agreements

**A. J. Anderson**, manager, Washington Apricot Marketing Agreement, will discuss the Apricot and Cherry Marketing Agreements.

**E. W. Anthon**, entomologist, Washington State College, is scheduled to discuss the latest developments in pest control, including: "New Materials," "Pear Psylla

Control," "Is Codling Moth Becoming Resistant to DDT?" and "Mite Control."

**C. A. Svinth**, director, Washington State Agricultural Extension Service, is scheduled to explain how the extension staff can best serve the citizens of Washington. He is expected to give most emphasis to looking ahead.

**John C. Snyder**, Washington extension horticulture specialist, will discuss new developments in training young apple trees. He will explain and illustrate the stubbing method developed by Dr. Leif Verner, of University of Idaho.

**R. D. Bartram**, Chelan County agent, Wenatchee, is going to discuss detailed pruning of old apple trees. The need for keeping old trees beyond the originally



Reuben Benz, who will moderate panel on quality improvement during annual Washington State Horticultural Association meeting in December, is shown holding scroll presented him by Washington State Apple Commission last year, in honor of his more than 30 years of effort and service in behalf of Washington state apples. Benz is Yakima sales agent for the commission. In addition to his local and state activities for the apple industry, Benz was chairman of National Apple Institute for three years. He has been a director-at-large since 1937.

scheduled time makes it necessary to give them some special treatment.

**Dr. A. N. Roberts**, Oregon State College, is scheduled to give a picture of the excellent experimental work being done at Corvallis. Washington fruit growers who have seen some of it are much impressed and want to hear more about it.

#### Bulk Handling

Bulk handling is to be one of the important topics. Several authorities are going to take part in the discussion. **B. A. Perham**, Perham Fruit Corporation, who spent considerable time in New Zealand observing bulk handling operations there, is going to lead off the discussion. **Jim Matson**, Yakima apple



grower who is in his second year of bulk handling, is going to tell of his experience. **Dr. Harold Schomer** and **Stanley McBirney**, U.S.D.A., Wenatchee, will illustrate some of the operations and supply figures.

**Ray R. Reter**, president, International Apple Association, Medford, Ore., is scheduled to discuss "Fruit Trends in Oregon."

**Karl Hobson**, W.S.C. marketing price specialist, Pullman, is being asked to discuss the fruit outlook.

**R. R. Legault**, Washington State College agricultural chemist, is scheduled to discuss spray residues.

He is expected to report on the possibility of getting tolerances for new materials for which there are none at present.

#### **Retail Store Promotion**

**Mrs. Sybil Church**, marketing research analyst, Los Angeles, has a story about merchandising and promoting fresh and canned fruit in retail stores. She has had vast experience talking with merchandising organizations. She also knows

the story from the housewife's standpoint. These qualifications, along with the fact that she is a dynamic and dramatic speaker, ensures an interesting presentation of a timely subject.

**Dr. Roderick Sprague**, Washington State College pathologist, and **Dr. Jesse Kienholz**, USDA pathologist, Hood River, Ore., are to team up in discussing pear blight.

Apple scab is to come up for discussion. **Dr. Sprague** no doubt will tell of his work during the past year. **Dr. Norman Dobie**, Oregon State College pathologist, is to give a progress report on the work he did in the Walla Walla area.

Fruit growers from many areas are supplying questions for the Question Box sessions. These questions are being printed in the program and will be answered during the meeting.

A "fruit cutting" is to be another attractive feature of this year's program. In this cutting there will be boxes of packed apples instead of cans of fruit. **Frank Worthen**, Yakima apple grower, has charge of this number. THE END.

### **PANEL DISCUSSIONS FEATURE OREGON MEETING**

**ROSS HUKARI**, Hood River, President

**C. O. RAWLINGS**, Corvallis,  
Secretary-Treasurer

A TWO-DAY program covering important topics on pome, stone, and small fruits, as well as vegetables, features the 72nd annual meeting of Oregon State Horticultural Society, December 5-6, at Corvallis. Panel discussions are destined to bring to light many fruit growing practices and problems with which the horticultural specialists and growers taking part in the discussions have faced in the past year. A tentative program for the two-day convention follows:

#### **General Session**

Status of Oregon agriculture—welcome address: **R. J. Stewart**, director of Oregon agriculture.

Fertilizers in relation to Oregon crops: **Malcom McVickar**, chief agronomist, California Spray-Chemical Corp.

Water rights in Oregon: **Lewis Stanley**, Oregon state engineer.

Annual banquet: Thursday, December 5, at 7:00 p.m., in Memorial Union Ballroom on Oregon State College campus. Master of ceremonies: **Donald McCutcheon**, manager, radio station KODL, The Dalles. Featured speaker: **Bob Blackburn**, sportscaster for radio and TV, Portland.

#### **Apple and Pear Section**

**Chairman, Ralph W. Kirby**  
**Hood River**

Controlled atmosphere and storage problems: **Elmer Hansen**, Oregon State College horticulturist.

Resistance of orchard pests to insecticides: **Paul O. Ritcher**, chairman, OSC department of entomology.

Storage rots and handling: **C. F. Piereson**, USDA, Wenatchee, Wash.

Rootstocks and new varieties: Panel discussion. Moderator: **Walt Mellenthin**, horticulturist, Mid-Columbia Branch Experiment Station, Hood River. Panel members: **Jean Monguin**, grower from France; **A. N. Roberts**, OSC; **J. R. Nunamaker**, grower, Hood River; **C. Cordy**, Jackson County agent; **Wayne Melot**, nurseryman.

What are we doing to our soils? **J. A. Vomocil**, University of California soil physicist, Davis.

Research facilities at OSC: **Spencer B. Apple, Jr.**, chairman, OSC department of horticulture.

Establishing young trees successfully: Panel discussion. Moderator: **Lee Foster**, Hood River county agent. Panel members: **John Snyder**, Washington State College horticultural specialist and president, Washington State Horticultural Association; **Malcom McVickar**, chief agronomist, California Spray-Chemical Corp.; **Riddell Lage**, Hood River, 1957 grower of the year.

What's new in chemicals? For insect control: Entomologists **L. C. Gentner**, Southern Oregon Experiment Station entomologist, and **F. E. Ellertson**, Mid-Columbia Experiment Station; for disease control: **C. R. Kienholz**, USDA pathologist, Mid-Columbia Experiment Station.

Bulk handling of fruit: **Stan Porrit**, Summerland (B.C.) Experiment Station horticulturist.

#### **Stone Fruit Section**

**Chairman, Keith Schrepel**, Yamhill

Oregon's prune industry—its future: A panel discussion. Moderator: **Kim Roberts**, Dallas, Polk county (Ore.) extension agent.

An economic report on the Pacific Northwest stone fruit industry: **M. D. Thomas**, OSC agricultural economist.

Pollination problems with stone fruits: Panel discussion. Moderator: **William Stephen**, OSC research entomologist.

OSC's fungicide testing program: **Norman D. Dobie**, OSC plant pathologist.

Insect control in stone fruits: **Robert Every**, OSC entomology specialist.

Fertility studies on Willamette Valley stone fruits—A progress report: **O. C. Compton**, OSC horticulturist.

Control of peach leaf curl, brown rot, and coryneum blight in peaches: **Iain C. MacSwan**, OSC plant pathology specialist.

#### **Small Fruits Section**

**Chairman, Bob Smith**,  
**Clackamas County Agent**

Plant stand and strawberry yields: **Harry Lagerstedt**, OSC.

Report on strawberry fertility studies: Panel discussion. Panel members: **Grant Braun**, American Potash Institute; **Walter B. Neuberger**, Birdseye Division horticulturist, Hillsboro; **Palmer Torvend**, Washington County Agent, Hillsboro; **Richard Bullock**, superintendent, Western

Washington Experiment Station, Vancouver; **Richard Kirsch**, OSC soil scientist.

Growth regulators and their uses in horticulture: **L. T. Blaney**, OSC horticulturist.

Irrigation and fertilization of blackberries: **Dr. George F. Waldo**, USDA horticulturist.

Nutrient deficiencies of Marshall strawberries: **Frank Johanson**, Snohomish County (Wash.) extension agent.

Symphylids in small fruits: Panel discussion. Panel members: **Palmer Torvend**, Washington County extension agent; **Robert Every**, OSC extension entomologist.

Variety evaluations in small fruits: In the field: **Walter Kahle**, Birdseye Division, Hillsboro; in the factory: **Robert Conroy**, Conroy Packing Co., Woodburn, Ore.

**Chairman, Fred Herring, Jr.**,  
**Yamhill County Grower**

Strawberry weed control practices: Panel discussion. Panel members: **Don Walrod**, Columbia County extension agent, St. Helens, Ore.; **Henry Taube**, Northwest Packing Co., Portland; **Rex Jones**, Birdseye Division, Hillsboro; **I. A. Parberry**, Stayton (Ore.) Canning Co.; **Bud Jones**, Jones Weed-Away Service, Portland.

Strawberry council activities: **Marvin VanCleave**, council president.

Should growers organize a marketing association? Panel discussion. Moderator: **Roland Groder**, OSC marketing specialist.

Market outlook for small fruits: **Bob Birkeland**, North Pacific Cannery, Portland.

Strawberry fruit rot control: **Ed. Vaughn** and **Robert Powelson**, OSC plant pathology department.

Post-harvest care of strawberries: Panel discussion. Moderator: **Don L. Rasmussen**, Marion County extension agent, Salem.

#### **Vegetable Section**

**Chairman, Robert Ohling**,  
**Blue Lake Packers, Inc., Salem**

Soil compaction in vegetable crops: **J. A. Vomocil**, University of California soil physicist, Davis.

Fertility problems with vegetable crops: Panel discussion. Moderator: **Spencer B. Apple, Jr.**, OSC horticulture department head. Panel members: **T. L. Jackson**, OSC soil scientist; new fertilizer materials and results with fertilizers applied through sprinkler irrigation systems; **Harry Mack**, OSC horticulturist; OSC fertility work on vegetables during 1957; **Richard Bullock**, superintendent, Washington State College's southwest Washington branch experiment station, Vancouver; use of potash on pole beans; **George Johannessen**, agronomist, American Can Co., San Francisco; placement of fertilizer in relation to beet seed at planting time as an approach to reducing damping off of table beets.

Use of soil moisture measuring equipment—advantages and disadvantages: Panel discussion by Willamette Valley growers. Moderator: **Marvin Shearer**, OSC irrigation specialist. Panel members: **Ron Hardman**, Independence; **William Van Buren**, Gresham; **Frank Russell**, Molalla; **Eric Wickland**, Lane County; **Robert Magee**, Yamhill County.

Experimental results with plastic mulches on vegetable crop production: **Vernon Clarkson**, OSC horticulturist.

Costs of growing pole beans—a cost accounting project set up with eight Marion County (Ore.) growers: **Manning Becker**, OSC farm management specialist.

## IDAHO GROWERS TO LEARN OF CONSUMER PREFERENCES

ANTON S. HORN, Boise,  
Secretary-Treasurer

SOME of the outstanding speakers who will appear on the Idaho State Horticultural Society annual program, December 9-10, at Hotel Boise, Boise, include **Harold Fogle**, USDA horticulturist at Prosser, Wash., who will speak on new peach varieties; **Miss Gale Ueland**, USDA extension economist Washington, D.C., whose subject will cover consumer preferences in fruits; **H. C. Manis**, University of Idaho entomologist, who will discuss insect control; and **Leif Verner**, University of Idaho horticulturist, who will handle prune problems.

The much discussed topic of bulk handling will be covered by a USDA specialist.

The traditional question box session will be a highlight of the meeting. The annual banquet and dance will take place Monday evening, December 9.

## OREGON BERRY GROWERS FORM BARGAINING AGENCY

EIGHT-CENT strawberries which kept Oregon growers at steam-blowing point all summer, finally blew the top off, and the Northwest Berry Association (present address: Amity, Box 1) was organized by more than 300 berryman meeting recently at Woodburn.

This bargaining agency plans to raise prices to growers and prevent former wide fluctuations in berry values. Herbert Steiner, Beavercreek, president, points out that 8-cent strawberries sold for 33 cents in food stores, and frozen raspberries priced at 50 cents in stores brought growers only 14 cents.

### Early Price Setting

The organization hopes to set prices while berries are still green. Also, according to Howard Davidson, Amity, one of the originators of the bargaining agency, they hope to make bargaining between grower and processor more business-like by asking that either the processor have a price set when the fruit is delivered or the contract between grower and processor will be broken.

During the meeting 82 growers paid a \$5 membership fee and elected a board of directors. In addition to Steiner, officers are: Ralph Wood, Amity, secretary-treasurer; Walter Bagenstos, North Plains, vice-president and member of the board, as are Adolph Anicker, Deer Island; Jack Chapin, Salem; Howard Davidson; David Geisbrecht, Dallas; John Raynard, Hillboro; and John Weber, Canby.

In the future, members will sign a marketing agreement promising to deliver their berry crops only to such persons or firms approved by the association.

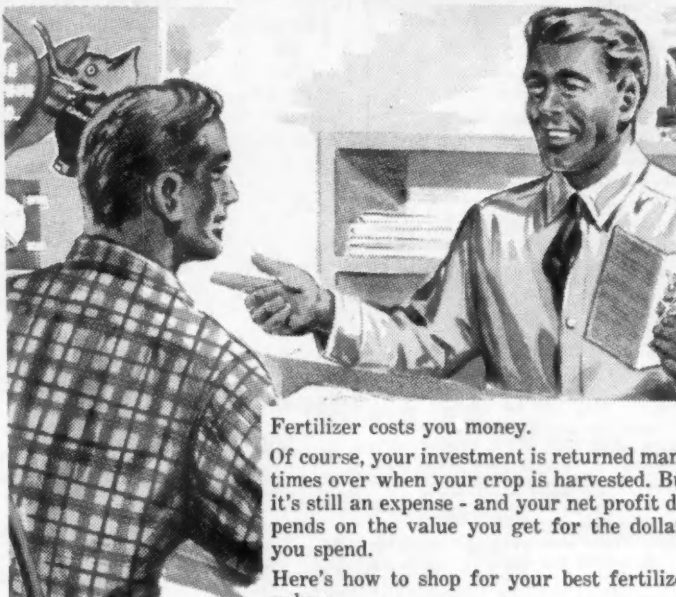
The association agrees to handle, market, or contract to market, all berries produced and delivered to it by members at prices the association believes best.

A general manager who is not a member of the board will be employed. Buyers may be directed to deduct up to 1% of members' gross sale price to be paid to the association for marketing expense and support of the organization.

Steiner said that the association will not set prices paid by co-operatives as it is believed co-operative prices will be automatically influenced upward by higher market prices of the bargaining agency.—Harold and Lillie L. Larsen.

November, 1957

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## AUTOMATION KEYNOTES DIAMOND'S NEW PLANT

By HENRY BAILEY STEVENS

PERHAPS more than any other tree food the nut lends itself to mechanical handling, and the large West Coast co-operatives which process the bulk of the almond, filbert, and walnut crop have gone all out for automation within the last two or three years.

The opening last fall of the new Diamond Walnut Growers plant at Stockton caps the climax of this trend with a building that covers 14 acres of ground and turns out about 100 million pounds of shelled and in-shell nuts before the season closes.

The Diamond plant has a bank of automatic machines that weighs the walnuts, makes, fills, and seals the cellophane bags in one continuous operation at the rate of 45 bags per machine per minute.

Meanwhile the growers themselves have to a large extent mechanized the harvest with machines that shake the trees, pick up, clean, and sort the crop.

At Portland the Northwest Nut Growers in 1955 installed an electronic nut cracker that operates at the rate of about 24 tons per day in their huge new plant.

At Sacramento the California Almond Growers Exchange, already far advanced in the processes of automation, in 1955 more than doubled its storage capacity and operates a battery of machines that will crack a total of 175 tons a day.

The walnut growers, in moving their headquarters last year from Los Angeles to Stockton, were able to make a clean sweep into automation. Their refrigerated bulk storage bins have a total capacity of 9 million pounds, with their actual utility extending far beyond this because of the continual movement of nuts out of plant.

### Electric Eye Color-sorts Kernels

Elevators from the truck unloading pit convey walnuts into the bins at the rate of 2100 pounds per minute. Among the new pieces of shelling equipment are 53 "electric eye" sorting machines which separate kernels into the various color grades and 42 newly-designed air separators for removing shells.

Shells from the cracking plant are blown by air into special bulk storage and then conveyed to the boiler to furnish power for both heating and cooling. An oil mill crushes all

inedible kernels into oil and meal, the sale of which should provide enough increased revenue to pay its cost in two years.

Four 700-foot railroad tracks are inside the building, and with two others outside provide for spotting some 75 freight cars. Messengers and many officials travel around through the plant on bicycles, and fork-lift trucks are much in evidence.

The new electric eye machine color-sorts as much material in one hour as one woman can in eight hours. In fact, about the only hand labor required in the shelling plant is that of final inspection before the kernels are vacuum-canned or packed in bulk containers.

### Total Savings—Over \$1½ Million Per Year

General Manager James H. Bryce says, "Labor in the shelling plant has been reduced to about one-quarter

#### DIAMOND ANNOUNCES PRICES

Diamond Walnut Growers, the state-wide grower's co-operative with headquarters at Stockton, Calif., has established its new crop in-shell prices at the same levels as in 1956, announces J. H. Bryce, general manager. The per pound prices for bulk in-shell walnuts, FOB Stockton, are:

Diamond brand large-size grade.....39¼ cents  
Diamond brand medium-size grade.....37¼ cents  
Emerald brand large-size grade.....36¼ cents  
Emerald brand medium-size grade.....35¼ cents  
Emerald brand baby-size grade.....32¼ cents

Packing of the 1957 crop walnuts started in the Stockton plant on October 3, reports Bryce, and shipments to the trade had started by mid-October. The co-op has 10,800 members.

The USDA walnut production estimate for California for 1957 is 67,000 tons, somewhat less than earlier estimates due to effects of widespread blight and heat damage, and 2000 tons below last year.

Oregon's estimated 1957 crop of 5300 tons, is 2500 tons greater than in 1956, according to the USDA.

of the people required for production during the 1954 season. The reduced costs of shelling will save the association over \$1 million per year compared with the old system, depending upon the quantity shelled.

"Total savings already in sight for the Stockton plant will amount to at least \$1,500,000 per year as compared with the situation prior to the 1955 season. These savings are without regard to cost reductions in bulk handling, centralization of production facilities, and other factors. Put another way, annual savings will be about five times the annual cost of interest and installments on the 12-year loan for the project."

Comparable efficiencies are evident in the almond plant at Sacramento and the filbert-walnut plant at Portland. It is notable that all three of these plants have been developed by grower co-operatives. They are shining examples of the ability of nut orchardists to keep step with the latest discoveries of scientific management.

THE END.

AMERICAN FRUIT GROWER



## HARVESTING PRUNES

**P**RUNE GROWERS who harvest with mechanical pickups find careful soil preparation the most important single operation leading to a successful harvest, states Allan A. McKillop, assistant professor of agricultural engineering, University of California, Davis.

Poor soil preparation before harvesting with machines, reports McKillop, usually results in high fruit damage, also either too much fruit is left on the ground or too much dirt is picked up.

Damage by mechanical harvesting averages only 15%, according to McKillop. But it can be much higher if the soil is inadequately prepared. This figure compares with 16 to 24% damage in hand picking.

"The amount of dirt picked up by the machines depends directly upon soil preparation," says McKillop. "If the ground is rough, the operator has two choices. He can raise the reel, which results in picking up less dirt, but leaves a large amount of fruit on the ground. Or he can lower the reel and pick up more fruit, but he picks up a lot of dirt with it."

According to McKillop's investigations, the amount of dirt picked up while harvesting 100 pounds of clean prunes ranges from 3 to 44 pounds. Thus, if the soil is well prepared, the mechanical harvester picks up little more dirt than the hand picker, who averages only a half pound of dirt.

Prunes missed by mechanical pickups ranged from 1 to 25%. Catching frames missed 8 to 10%, while hand pickers missed practically none.

Disking, floating and rolling seem to be standard practices in orchards.

## IT'S TIME TO ORDER PEACH REPLACEMENTS

**M**ANY old standard peach varieties, such as Jubilee and Elberta, are now obsolete for the new orchard. Since large, well-grown trees of new varieties are often hard to obtain, it's the fall nursery order that is sure to get preference.

Northern peach growers who buy "June bud" trees from nurseries in the South should specify fall shipment—then heel the trees in a narrow rick with baled straw along the sides, ends, and over the top.

Build your own high humidity nursery storage, and you will have dormant trees whenever your soil conditions are ready for early spring planting.—C. L. Burkholder, Purdue University.

NOVEMBER, 1957

## WORLD'S SAFEST POWER SAW



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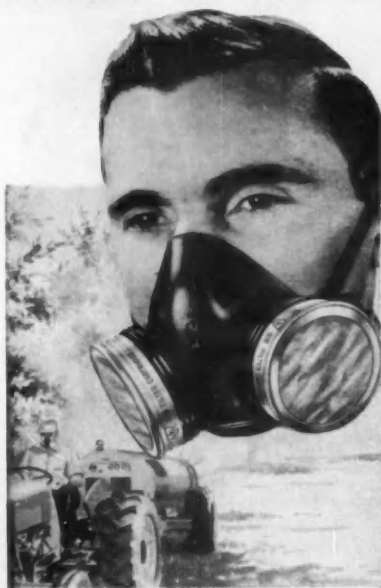
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## MEDFLY ERADICATION

THE federal-state Mediterranean fruit fly campaign in Florida represents an outstanding achievement in modern pest control.

Today, just a little more than a year ago when larvae were found in Miami, eradication of the Medfly appears assured. Federal regulations have been lifted, and only clean-up operations are now underway. Remaining spot infestations are under state control.

Commenting on the value of the control program, Ed L. Ayers, State Plant Board commissioner, estimated that "living with" the Medfly would easily cost citrus growers \$10 million a year.

Nor is there reason to believe that, barring eradication, the pest's destruction could be confined to Florida citrus. The Medfly attacks a wide range of fruits other than citrus, including peaches, pears, plums, and apples grown commercially in the south. The insect can survive normal winters in southern sections of Georgia, the Gulf states, Texas, New Mexico, Arizona, and California.

### Infest Major Citrus Areas

Spreading quickly from Miami, the Medfly at its peak infested some 800,000 acres in 27 counties in southern and central Florida.

Ready to swing into action, pest control agencies of the state and USDA worked around the clock to gain an advantage. Airplanes applying insecticide treated more than 6 million acres. Some 50,000 traps were scattered in the state to measure, first, advance of the Medfly, then, progress of control.

Preparedness was a key factor in the rapid progress of the campaign. For the past seven years, USDA's Agricultural Research Service has carried forward a program on this and other fruit flies at its Hawaii laboratory. From these studies came the powerful lure, angelica seed oil, for use in survey traps, and the insecticide bait spray.

Even after the campaign got underway, scientists developed methods of fumigation that would destroy any Medfly larvae in fruits and vegetables without damaging taste, appearance, or quality. And, when the world's stock of angelica seed oil began to run low, a synthetic lure was developed.

Federal and state control specialists were pulled off other jobs and molded into an eradication team. Funds, totaling more than \$10 million, were

voted by the Florida State Legislature and the U. S. Congress. Federal and state quarantines controlled movement of host fruits and plants from infested areas. Roadblocks, train and airplane checks, and boat inspections on the Intercoastal Waterway prevented accidental spread of the fly by tourists and commercial carriers. All insecticide spraying was done by private aerial pest control operators, flying under federal or state contracts.

Fruit and vegetable producers and packers spearheaded community efforts to destroy infested fruit, and fruit likely to become infested. Civic leaders in communities where Medflies were found facilitated treatment of residential and business areas.

This country's protective plant quarantine barriers have been strengthened to prevent another alien pest invasion. But if the Medfly should slip in again, it can be stopped with a minimum effect on America's fruit and vegetable industries.—W. L. Popham, USDA.

## FORK LIFT FOR LOADING GRAPES

A FORK lift for loading grapes after harvesting eliminates the hand work, is quicker, and is a boon to the one-man farmer.

In 1953 I purchased a fork lift which I mounted on my tractor. Now my daughter can drive the tractor down the rows, straddling crates of grapes set in the centers, while I load them onto the fork-lift pallet on the rear of the tractor.

This pallet holds about 60 crates. At the end of the row, it is a simple matter to raise the fork and slide the loaded pallet onto the truck. This method takes about half the time required for the old procedure.

Fruit arrives at the plant in better condition due to less handling. Distributing empty crates also is easier and quicker on the return trip. I can put three pallets of empty crates onto a 12-foot trailer and drive to the vineyard to distribute them.—By Paul R. Howard, North East, Pa.



Fork lift mounted on Paul Howard's tractor.  
AMERICAN FRUIT GROWER



## TREE FOOD PROMOTION

By HENRY BAILEY STEVENS

**United Front** THE possibility of a united educational front for all orchard products keeps fermenting in my mind. During a visit in the far West and South, I discussed the subject with executives in fruit and nut circles, market, nutrition, and promotional leaders.

In these interviews I reviewed this point: The orchards of this country produce a billion dollars' worth of fruit and nuts annually. They all stem back to a tree in which, presumably, man, as a member of the primate family, had his racial origins.

Actually the tree is a superior kind of plant, whose deep root system and wide foliage are built to extract most fully the nutrients provided by soil, sun, and water. Since other organizations have found advantages in working across the board for multiple products, should not our orchard industries explore a joint approach to the consumer?

Some competition between fruits and nuts is inevitable. Doubtless we must expect special commodity research and promotion to continue with little diminution in the foreseeable future. But this should not blind us to advantages in persuading the consumer to spend a larger part of his food dollar for tree products as compared with non-orchard ones.

**Concerted Action** SUCH a campaign does not necessarily involve a large overhead or new budgets for national advertising. Much could be done to create public interest by concerted action within the existing framework. For example:

- 1) An in-grower campaign to build faith in all tree foods as well as in one's own commodity.
- 2) Request by orchard industries for research on the common properties of tree fruit—the relative ability of trees as compared with animals to gather trace elements and other nutrients and store them.
- 3) The instinctive appeal which fruit and nuts makes to young children should be encouraged by publication of special literature aimed at various age groups.
- 4) Co-operative work with nutritionists to clarify the already-known values of fruit and nuts in the diet.
- 5) A campaign among restaurants, hotels, and institutional managements to put more fruit and nuts into their daily menus.
- 6) Perhaps most potent of the areas for combined action is nutritional research. Success already scored by commodity investigations are cumulative. As soon as the citrus, the apple, the prune, or the walnut industry proves a point in respect to human health, it redounds to the credit of the Tree. A united orchard front would be in a position to make requests for more important research that could hardly be denied. The End

NOVEMBER, 1957

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### HOW TO MAKE APPLE CIDER

Is there a bulletin or other information on making apple cider?—New Mexico.

Unfortunately, none of the state colleges have a bulletin on making apple cider. However, "Apples & Apple Products" by Smock & Neubert covers the subject well and is available from our book department for \$9.75.

### WHERE CAN I BUY

Mayflower peach trees?—Idaho.

From Bountiful Ridge Nurseries, Princess Anne, Md.

Grimes Golden and Fameuse-Snow apple trees?—Louisiana.

From Greening Nursery Co., Monroe, Mich.

Earliblue and Bluecrop blueberry cuttings?—Michigan.

From the New York State Fruit Testing Cooperative Association, Geneva, N. Y.; Sayre B. Rose, 2030 Main St., Glastonbury, Conn.; H. B. Scammell, Toms River, N. J.; Galletta Bros., Hammonton, N. J.; A. G. Ammon, Chatsworth, N. J., and Arthur Elliott, Otter Lake, Mich.

### BULLETIN ON HARDY FRUIT TREES

Where can I obtain the bulletin, "Fruit Varieties Developed at the University of Minnesota Fruit Breeding Farm?—New York.

Write to the Department of Horticulture, University of Minnesota, St. Paul, Minn. and ask for Sta. Bul. 441.

In the August Question Box column, the name of Fruit & Produce Packing Company, Division of Inland Container Corporation, 700 West Morris St., Indianapolis 6, Ind., was inadvertently omitted from a list of manufacturers of cell cartons for apples.

### CHERRY STONERS

Where can I purchase a well-constructed cherry pitter?—Ontario.

Try any of the following: Dunkley Co., Kalamazoo, Mich.; Enterprise Mfg. Co., 3rd and Dauphin Ave., Philadelphia 33, Pa.; Food Machinery & Chemical Corp., Canning Machinery Div., Hoopeston, Ill.; Huntley Mfg. Co., Brocton, N.Y.; and G & H Industries, 1615 Lakeway, Kalamazoo, Mich.

## GROWING YOUNGBERRIES

THE Youngberry, a trailing or dewberry type of blackberry, is about the most productive blackberry grown in Louisiana. Although quality and yield do not satisfy plant breeders, the Youngberry is highly recommended until a better type of blackberry is developed.

Youngberries have been grown successfully in Louisiana ever since discovered and introduced by B. M. Young in 1905. The berry does well in many types of soil but prefers deep, friable, fertile soil with a lot of humus, well drained but capable of holding moisture.—John A. Cox, Louisiana Extension Horticulturist.

AMERICAN FRUIT GROWER

## NEW FOR YOU



### Cherry Pie Queen

The Golden Apple of Greek mythology has been selected as the golden anniversary symbol of the C. H. Musselman Co., Biglerville, Pa. The company is one of the largest apple processors in the world. Miss Heidi Nickey, the Eastern Regional Cherry Pie Queen, is pictured above saluting the company. The Frick Co., whose compressors many of our grower readers use, sent us the photo, and it's interesting to know that the first Frick refrigerating system was installed in the Musselman plant in 1934. There, 100,000 bushels of apples are cooled annually by Frick equipment. The compressors are used to precool cherries, too. If you are thinking of a cold storage, you'll want to know about Frick equipment. Why not write Terry Mitchell at The Frick Co., Waynesboro, Pa.

### Pruning and Picking

Down in Missouri I saw a big grower using a new orchard Travel Tower and I thought you would be interested in his experience with it. With the new machine, one man did the work of two, and under certain picking and pruning conditions, the work of three or four men. Actually the machine will pay for itself in two years' time. The tower was developed in the Pacific Northwest where many are in use. The man on the platform drives the machine forward or in reverse, and optional equipment such as an air compressor is available. Why not write Pitman Mfg. Co., 300 W. 79th Terr., Kansas City, Mo., for full details.



NOVEMBER, 1957

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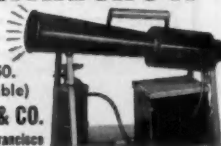
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The Friday Hydraulic Pruning Shears is also operated from the hydraulic system of your tractor. It has more and smoother cutting power, is controlled with an electric pushbutton mounted on the Pruning Shears handle. The Pruning Shears, valves and hose assembly can be purchased separately for mounting on most tractors at \$329.00 complete. Write for literature.

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## NEW IDEAS in Apple Storage

**RESEARCH** at Michigan State University by I. J. Pflug and D. H. Dewey shows that a controlled atmosphere storage can be built without a sealed sheet metal lining. Shown below is an experimental building built with tilt-up concrete wall slabs



poured flat on top of Styrofoam insulation (Dow Chemical Co., Midland, Mich.). A built-up roof was installed and the concrete floor was poured last.

This experimental storage proved satisfactory for storing Jonathan apples for seven months at 32°F. in 2.5% carbon dioxide and 3% oxygen. Further testing is contemplated because of some slight air leakage at the unsealed floor and wall joints.

An electric defrost evaporator (Bush Manufacturing Co., West Hartford 10, Conn.) used for cooling gave excellent service and minimum fruit shrivel.



A way of converting a cold storage room temporarily into controlled atmosphere is the "sleeping bag."

Researchers Pflug and Dewey enclosed McIntosh apples in a large vinyl plastic tent within a regular

commercial storage room. The desired atmosphere within the tent containing 2400 bushels of McIntosh was achieved in about 10 days. Estimated cost of controlled atmosphere storage in the tent was approximately 24 cents per bushel over regular storage costs.

Difficulty was experienced with air circulation within the tent causing excessive wilting in some locations. Different stacking arrangements will be tried to eliminate this difficulty.

An exterior view of the apple storage of the B. H. Wallingford Orchards, Auburn, Maine, shows two new controlled atmosphere rooms. Each room, instead of relying on sheet metal, uses the new glass type insulation (Foamglas, Pittsburgh Corning Corp., Pittsburgh 22, Pa.) to maintain an adequate seal against air leakage.

To construct the storage, reinforced concrete walls were poured into place with steel I beams supporting the roof. The Foamglas is applied with hot asphalt with 2 inches



in the floor and 4 inches in the exterior walls and ceiling. Foamglas, being a glass-type material, is not affected by moisture, is fire-proof, and resists mouse attack. **THE END.**

## PEAR DECLINE

### STILL A MYSTERY

**P**RODUCTION of pears in Washington has dropped recently. One of the causes is a new condition commonly called "pear decline." Two forms are recognized: "slow decline" and "quick decline."

In early stages of slow decline, growth is only slightly reduced. In advanced stages—often after a lapse of several years—there is no terminal growth and few if any water sprouts. Leaves are small and pale. In spring, there may be a profusion of blossoms. However, few if any fruits set. Fruit which *does* set rarely sizes. No cases of recovery are known.

Quick decline is dramatic. At any time during the growing season, leaves may wilt and turn brown.

**AMERICAN FRUIT GROWER**



Smaller twigs shrivel, and fruit becomes soft. Affected trees do not recover.

Dr. Roderick Sprague, of the Tree Fruit Experiment Station in Wenatchee, has investigated many soil micro-organisms as a possible cause of decline. He believes that although many of them do play an important part in the health of pear trees, others may be, at least partially, responsible for decline.

Quick and slow decline are more prevalent on Bartlett than on other varieties. They have been found on Anjou, Bosc, and Winter Nelis, but seldom on Flemish Beauty.

Nematodes as a possible cause of decline have been investigated by Mr. W. Apt, USDA, Puyallup. He finds populations of some parasitic nematodes sufficiently high to be a decided factor in causing decline. But research has not yet shown the role nematodes play in pear decline.

Most of the pear trees in Washington are believed to be on oriental (*Pyrus serotina*) rootstock or seedlings. The balance are French (imported seed) or Bartlett seedlings. Decline has been found much more commonly on the first, and only occasionally on French seedling roots.

Although there is no good proof as to the long-term soundness of policy, the following practices are being suggested to Washington pear growers who are planting or replacing pear trees:

1) Make every effort to obtain trees budded onto seedlings grown from imported French seed. Since this is often impossible, trees on Bartlett seedlings (domestic French) are used.

2) Replant in the same hole from which an affected tree was removed. Enlarge the hole somewhat and place fresh or virgin soil around the roots of the new tree.—C. G. Woodbridge, State College of Washington.

## 'SHORT WAVE'

(Continued from page 9)

doses of 500,000 rep without damage. With lemons inoculated with *P. italicum* and *P. digitatum*, a dose of 100,000 to 200,000 rep delayed fungal growth and subsequent decay without causing noticeable injury. Experiments with Navel oranges have shown that at 30,000 rep the development of bitterness is inhibited.

**Grapes**—Tokay grapes irradiated to 500,000 rep remained sound after 10 days at room temperature.

**Peaches**—Application of 200,000 rep to fresh peaches which had been inoculated with *R. nigricans*, an organism frequently responsible for peach spoilage, kept the fruit free from infection for six days at room temperature.

Canned peach slices in syrup, sterilized by irradiation rather than cooking, retained their acceptability after storage at 72° F. for six months.

**Pears**—Green Bartlett pears treated with doses of 100,000 to 200,000 rep were in much better condition after two weeks of storage at 70° F. than similar nonirradiated pears.

In studies on irradiation sterilization, Kieffer pears, ripened after harvest, blanched, and subjected to 2 million rep, remained acceptable after storage for a year at 72° F.

**Prunes**—The major change in prunes treated with high doses of radiation was a bleaching of the flesh. However, the fruit returned to its normal color within a short period.

**Raisins**—Response was similar to that of prunes, with the same bleaching and restoration of color.

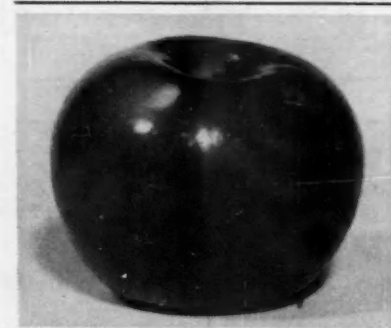
**Strawberries**—Refrigeration storage life of fresh strawberries was extended sevenfold by irradiation at 200,000 rep.

It is reasonable to expect that maturity condition of the fruit will be important in relation to quality of irradiated products. The importance of moisture content of the product is evidenced by the ability of the dried products to withstand high doses of irradiation. Serious thought must also be given to packaging considerations for preventing recontamination.

Finally, the economic feasibility of irradiation must be appraised in terms of the benefits it may provide in reducing spoilage losses and simplifying marketing.

THE END.

\*The authors wish to acknowledge the use of reports from USDA, Massachusetts Institute of Technology, New York Agricultural Experiment Station, University of Michigan, Utah State College of Agriculture, Low Temperature Research Station, Cambridge, England, and Anaheim Cold Storage Co.



CONNELL RED APPLE

Discovered in 1949 by Wm. F. Connell, of Connell's Sunridge Orchards, near Menomonie, Wis., the Connell Red apple is high in quality with long storage life. It is a large, red dessert apple with good cooking qualities; retains firm crispness and fine flavor; and does not break down internally even under adverse conditions.

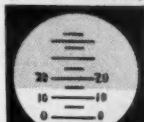
Bearing younger and more heavily than average trees, the Connell Red is also hardy, having withstood a temperature (official reading) of 40.5° below zero. It has been produced in volume by nurseries from New York to the West Coast.

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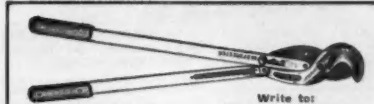
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## Father-Son Combinations

ONE of the fine things about fruit growing is the way it holds families together. One must have a little maturity to realize this but the great value is there. The new problems of the industry make the family enterprise economically sound.

Perhaps a generation ago it was a little doubtful with father and his years of experience. Son, fresh from the state university, with new ideas often found little opportunity to put his conceptions into practice. To be sure, many father-son combinations adjusted harmoniously and moved ahead, but the problems were, nevertheless, there.

Now, with production problems more under control than ever before, father can carry along with continued success in producing quality fruit. But the big opportunity is in marketing and advertising, and the disposal of the crop. Here is where son often fits in especially well. Salesmanship calls for new ideas and boundless energy. Now, with training at the university in salesmanship, advertising, promotion, psychology, and other subjects, son fits the new job well. Father's counsel and experience help to keep the ship steady and afloat, of course, but father does the growing and son handles the rest.

There are many of these successful father-son combinations all over America and they are increasing. Each job calls for specialization, and each job permits leadership with co-operation and without interference. It makes a good team and it makes a very happy, satisfying life.

## The Big Get Bigger

THERE is no denying that the trend continues for the larger unit to become larger. This trend is inevitable in the terrific competition for markets—not only in your home town but throughout the entire world.

It comes about because of the efficiency of modern machinery, which is, however, costly and demands larger operations on which to support the cost. Thus, the 10-acre orchard could stand the price of a \$150 spray rig a few years back but cannot stand the

\$4000 expense for modern equipment.

As the units become larger, they tend to concentrate power in the hands of a few. This, too, is in the right direction because it makes the producer of sufficient size control distribution of his product—at least to bargain effectively.

This does not mean that the little man has no place. There will be as many of them as before, and they will cut corners and become increasingly efficient. Many will combine and pool their resources in co-operative effort.

Some will decry the changing times, but this is of no avail. Change is the one constant thing in life. The thing to do is to analyze your position and fit into the new order. The opportunities were never greater.

## It's Hort Time!

WITH state horticultural society meetings already in full swing, growers and their families throughout the country are anticipating another round of stimulating get-togethers in the next few months.

Besides exchanging their ideas and own experiences with other growers, guests will be treated to well-rounded programs designed to better equip them in conducting a profitable fruit growing business.

Stepping into the spotlight to speak on topics ranging from bulk handling to controlled atmosphere storage will be experts in their fields, including growers as well as research men. Panel discussions will feature problems and grower-experiences in fruit growing.

## Fruit Growing is Such Fun!



## Fruit Talk

One of the interesting new developments in plant science is the revelation of the leaf as an organ not only of nutrient uptake, but also as an organ from which nutrients can be leached by rain and dew. The adaptation of plants and varieties to certain environments and the resistance and susceptibility to disease is seemingly tied up with this interesting phenomenon about which we will hear more.

Most of the world does not know the excellence and the quality that fruit can provide. The dining room in a fashionable Portugal hotel may offer fresh fruit which is edible, but it carries scale, scab, and a half dozen other troubles that the college freshman readily identifies.

A committee of the Illinois State Horticultural Society has proposed the following standards for the value of a fruit tree: Peach—\$2.00 per year of age up to the 5th year, 40 cents per year for the 5-16 year period, no gain between 16th and 20th year, decline of 40 cents a year for 20 and beyond. Apple—\$3.00 per year to the age of nine years, \$1.00 a year increase from 9-20 years, no increase for 20-25 years, and a decrease of \$1.00 per year for age 25 on—land price not included.

There are 33 different kinds of fruit and 69 different kinds of vegetables, not counting types and varieties—available in the American market. The competition is ever keener.

Dr. Edwin Smith of Wenatchee, comments almost poetically on the size, color, and splendid quality of Washington's superb 1957 crop of Delicious apples.

The tremendous use of wines and beers and other alcoholic beverages in Europe is hard for an American visitor to comprehend. Drinking water reaches the dining room table only if a real request is made, and the glances are inclined to make one feel a little odd. Of course, the answer lies in the fact that such beverages are sterile, whereas water is often unsafe.

The latest in the series of concise mimeographs on fruits and vegetables is an 18-page mimeographed product on Strawberries from the United Fresh Fruit and Vegetable Association, Washington 5, D.C., dealing with history, superstitions, varieties, yields, culture, packaging, transportation, diseases, marketing, storage, nutritional qualities.

Says B. B. Byrd of Virginia, "the American apple industry is headed for certain oblivion unless it can start thinking on a national scale and unless it reorganizes the enormous power of strong organizations..." Happily, enough leaders in the apple industry feel this way to assure that something will be done.

—H.B.T.

## Coming Next Month

### Pruning Issue

- Mistakes to Avoid When Pruning Apples and Peaches
- The Story of Robert Anderson—Pruning Sage
- How Severe Should Peaches Be Pruned
- Important Points in Pruning Sour Cherries
- Balanced Pruning of Grapes
- Tricks in Pruning Brambles
- Hedge Pruning Citrus

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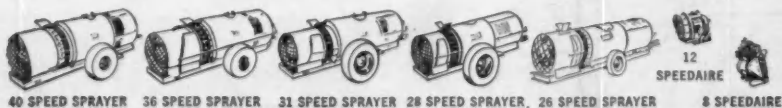
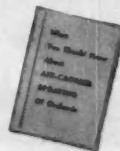


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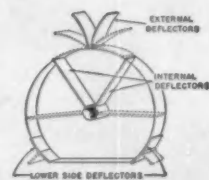


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